

NETWORKS

FAQ

Q I've heard 'multiple in multiple out' (MIMO) routers called 'pre-standard'. What does this mean?

A The next version of wireless, 802.11n, will support MIMO. As a ratified standard, all products that use it will have to comply with its exact specifications. This ensures interoperability between all products on the market, just as today you can use any 802.11g network adaptor to connect to any 802.11g wireless network.

The designers of current MIMO routers have tried to guess what the standard will incorporate, which is why some are called Pre-N. This means that when true 802.11n network adaptors are released, they may not work properly with existing MIMO kit. At the very least, you won't get the same high throughputs.

If you're happy with this and don't mind buying MIMO now, you've nothing to lose. However, our two favourite routers (see 'Also consider...', right) have equally high throughputs and comply fully with the 802.11g standard.

David Ludlow
Reviews Editor

david@computershopper.co.uk

LINKSYS Wireless-G Broadband Router

★★★★★
£60 inc VAT

We reviewed the Linksys Wireless-G Broadband Router with Speedbooster in *Labs*, *Shopper* December 2004, but this update introduces Linksys's Secure Easy Setup (SES). As with Buffalo's AOSS, SES lets you configure wireless clients at the touch of a button.

Before you get to this, though, you set the router up as usual. You can do this the hard way by connecting to the router's web-based control panel, but Linksys also provides a wizard on a CD. Follow the simple steps and it helps you configure your internet connection and wireless settings. However, we ran into problems when we got to the security settings. Although we'd chosen WPA protection, our notebook was convinced that the router was using WEP and wouldn't accept our eight-digit key. In the end we had to reset the router and start again, after which everything went smoothly.

This is likely to be all the contact most people need with their router. However, if you need to configure advanced features, such as port forwarding for internet applications, the control panel lets you do this. It's one of the better web interfaces we've seen and, as wireless routers go, is easy to use.

From this point you can use SES to connect wireless clients. On the router side, this involves pushing the glowing Cisco logo to put it into SES mode – not the SES logo, as you'd think. You then have to press the SES button in the client software.

You need a matching Linksys wireless adaptor for this to work as, unlike AOSS, SES doesn't currently support Centrino notebooks. It



worked well when we tried it with our Linksys adaptor, configuring our PC automatically for access.

Our test results showed excellent throughput using a Centrino notebook at close and long range. We even managed to get a connection 20m away, although this was good enough only for web browsing. Throughputs improved when we used Linksys's own wireless adaptor.

With excellent throughput and SES for its own-brand adaptors, the Linksys Wireless-G Broadband Router is an excellent product. However, throughputs lag slightly behind those of Buffalo's HighPower router (below), which also has AOSS.

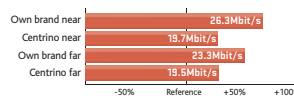
David Ludlow

SUMMARY

- ✓ Excellent throughput
- ✓ Wizard-based setup
- ✗ SES doesn't work with Centrino

802.11G WIRELESS ROUTER 125Mbit/s high speed mode, four-port Ethernet switch, one WAN port, Secure Easy Setup PART CODE WRT54GL-UK SUPPLIER www.zomp.net DETAILS www.linksys.co.uk

PERFORMANCE (see page 60)



▲ The Secure Easy Router wizard makes it easy to set up a connection

Also consider...

BUFFALO AirStation G54 High Power

★★★★★
£44 inc VAT

BEST BUY Buffalo's High Power router uses brute force signal strength to give the fastest and longest wireless transmission we've seen. The router provides a speed boost to all devices on the network. The management interface is one of the easiest we've used, and the router is very well priced. This is an excellent choice.



802.11G WIRELESS ROUTER 125Mbit/s turbo mode, four-port Ethernet switch, AOSS PART CODE WHR-HP-G54 SUPPLIER <http://uk.insight.com> DETAILS www.inmac.co.uk

✓ Improves whole network performance ✗ No security prompt FULL REVIEW Dec 2005

US ROBOTICS Wireless MAXg ADSL2+ Gateway

★★★★★
£79 inc VAT

BEST BUY US Robotics' Wireless MAXg ADSL2+ Gateway is all you need to share an ADSL broadband connection. The built-in modem supports the new ADSL2+ standard, so it will work with connections up to 24Mbit/s. It achieved a throughput of 24.58Mbit/s at 10m using a MAXg network adaptor. It also works well with standard WiFi adaptors, achieving a throughput of 17.94Mbit/s using a Centrino notebook.



MAXg technology is designed to improve speed and throughput. It works within the 802.11g specification, unlike MIMO routers, so it won't become obsolete.

802.11G WIRELESS ROUTER 125Mbit/s turbo mode, ADSL2+ modem, four Ethernet ports PART CODE USR019108 SUPPLIER www.nickknows.com DETAILS www.usrobotics.com ✓ Fast wireless ✗ Range not as good as MIMO routers FULL REVIEW Apr 2006



TRENDNET 108Mbps 802.11g MIMO Wireless Router

★★

£87 inc VAT

Most MIMO routers have at least three aerials, but TRENDnet's 108Mit/s 802.11g MIMO Wireless Router has only two. We were interested to see how this would affect its performance. The web-based control panel looks plain, but two wizards help you configure your internet connection and turn wireless security on. The router supports all the current security levels, including WPA2. We're not sure why a single wizard couldn't handle this, though.

Strangely, it forced us to use channel six for its wireless connection, and changing to a different channel disabled the turbo mode. This is annoying as switching channel helps you avoid interference. Accessing advanced features, such as the firewall and port forwarding, was also slow, even over a 100Mbit/s wired connection.

We ran our performance tests using the recommended settings, but we were hardly bowled over. With a Centrino notebook we recorded worse results than with our standard 802.11g router, especially at long range.

We also had some trouble when the PC, which was connected through one of the wired ports, lost its connection and was unable to talk to the router. We solved this by rebooting the router, but this also made our PC change IP address. All clients frequently changed IP address, which could be a problem if you have a printer that needs to keep the same address.

Using TRENDnet's MIMO PC Card (£45), our tests started off badly, as the client was unstable and made our PC crash. Removing it and using the Windows Wireless Zero Configuration utility stabilised performance, but the results were far from impressive.

This router didn't perform anywhere near as well as we'd hoped, so we still recommend Buffalo's High Power router (opposite).

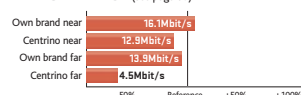
David Ludlow

SUMMARY

- ✓ Wizards help you configure security
- ✗ Poor performance
- ✗ Slow web management

802.11G WIRELESS ROUTER 108Mbit/s high-speed mode, four-port Ethernet switch, one WAN port PART CODE TEW-611BRP/UK SUPPLIER www.expansys.com DETAILS www.trendnet.com

PERFORMANCE (see page 60)



LINKSYS Cordless Internet Telephony Kit

★★★

£77 inc VAT

If you've started using the Skype telephone service seriously, you may find that being tied to your PC when making calls isn't a lot of fun. Linksys's Cordless Internet Telephony Kit makes life easier. The set comes with a USB wireless receiver that connects to your PC and a cordless phone and charger.

A wizard makes PC installation very easy. As soon as it's complete the cordless receiver connects to your phone. From this point incoming Skype calls are sent to the mobile handset. It was much easier to set up than the Dual Phone we reviewed in *What's New*, *Shopper* January 2006.

You can make standard outgoing calls, provided you have Skype Out, by dialling in the usual way. The phone also has an address book, which can store 100 entries.

More useful is the Skype button, which pulls all your Skype contacts from your PC so that you can dial them without having to go back to your PC. Although the colour screen isn't the best and has a very low resolution, we found it easy enough to select and call a contact.

Sound quality is very good. There was little latency in the line and it worked well on our office floor and the floor above, but it was unreliable any further away than this. The cordless phone isn't just for phone calls, as you can also use it to change your Skype online status without having to visit your PC.

As with every other Skype phone we've tested, the installation automatically changes Windows' default sound device to the cordless phone. This means that all your music, games and other sounds are automatically sent to the handset rather than your speakers. You can change the settings back in Windows' Control Panel and force Skype to use the handset, but we think this should be mentioned in the installation.

The Cordless Internet Telephony Kit works very well, and its Skype integration is excellent. It's pricy, though, and while the Dual Phone isn't quite as easy to configure, it also connects to your standard phone line and costs less.

David Ludlow

SUMMARY

- ✓ Excellent Skype integration
- ✓ Easy installation
- ✗ Expensive

SKYPE PHONE USB receiver, cordless phone PART CODE CIT200 SUPPLIER www.dabs.com DETAILS www.linksys.com



D-LINK DSL-G624M

★★★★

£86 inc VAT

D-Link's DSL-G624M is a MIMO router with an ADSL2+ modem, so you can connect it to the latest high-speed ADSL lines and benefit from speeds of up to 24Mbit/s. As with TRENDnet's router (left), the DSL-G624M has two external aerials, but these wide paddles contain two 2.5dBi antennas each, making a total of four.

As with most other routers, you configure the DSL-G624M through a web interface. D-Link provides a setup wizard, but it's not very good. It simply takes you through setting up your internet connection and doesn't help you configure your wireless settings or turn on security. This is quite an oversight in our opinion and means you have to configure the settings manually.

As with TRENDnet's router, you're forced to use channel six if you want to use the 108Mbit/s turbo mode. This is strange and is no use in areas where this channel is congested. Annoyingly, the router's management simply greys the channel selection out and doesn't explain why you can't change it.

The DSL-G624M has exactly the same range of advanced options, such as a firewall and port forwarding, as TRENDnet's router. The web interface is laid out in the same way, although D-Link's loads a little faster and looks prettier. We wouldn't be surprised if both routers were essentially the same product customised for each company.

Fortunately, the DSL-G624M is a much better performer, especially with our Centrino laptop, as you can see from the graphs below. Using D-Link's Wireless 108G MIMO PC Card (£27) we got excellent results at close range, but long-range results weren't as impressive.

As routers go, the DSL-G624M isn't bad and it's well priced when you consider that it includes an ADSL modem. However, performance wasn't anywhere near as good as we were hoping and US Robotics's MAXg router (opposite) is our preferred choice.

David Ludlow

SUMMARY

- ✓ ADSL2+ modem
- ✗ Performance not as good as we were expecting

802.11G WIRELESS ADSL ROUTER 108Mbit/s high-speed mode, four-port Ethernet switch, ADSL2+ modem PART CODE DSL-G624M SUPPLIER www.scan.co.uk DETAILS www.dlink.co.uk

PERFORMANCE (see page 60)

